



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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SEP - 5 2013

Ref: 8EPR-N

Mr. James Christian, Division Administrator
FHWA Utah Division
2520 West 4700 South, Suite 9A
Salt Lake City, UT 84118

Re: West Davis Corridor Draft Environmental
Impact Statement, CEQ # 20130131

Dear Mr. Christian:

The U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Federal Highway Administration's (FHWA) West Davis Corridor (WDC) Draft Environmental Impact Statement (EIS), sponsored by the Utah Department of Transportation (UDOT). Our review was conducted in accordance with the EPA's responsibilities under section 102 of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4332(2)(c), and Section 309 of the Clean Air Act, 42 U.S.C. § 7609.

The WDC project would improve regional mobility and enhance peak-period mobility in Utah's Davis and Weber counties along the eastern shore of the Great Salt Lake (GSL). Eight action alternatives (Alternatives A1 through A4, and B1 through B4) and a no-action alternative are analyzed in the Draft EIS. All eight alternatives propose a four-lane divided highway connecting with I-15 at one of two locations in Farmington at the south end, and terminating along one of four alignments in Weber County at the north end. The FHWA did not identify its Preferred Alternative in the Draft EIS. The UDOT has selected Alternative B1 as its "Locally Preferred Alternative." Alternative B1 begins on Glovers Lane at the south end, utilizes the Bluff Road alignment in the middle segment, and the 4100 West alignment in the northern segment. Because the Draft EIS does not identify a federal Preferred Alternative, this letter evaluates and provides a rating for each action alternative. Our comments on the Draft EIS focus on avoiding impacts to aquatic resources, including wetlands within the nationally significant Great Salt Lake (GSL) ecosystem. Our enclosed *Detailed Comments* include additional wetland and other identified concerns. The EPA remains committed to working with FHWA through this NEPA planning process to identify a project solution that meets the transportation need while remaining consistent with requirements in the Clean Water Act (CWA) and its implementing regulations.

Impacts to Wetlands and Aquatic Resources

All action alternatives include substantial and permanent direct, indirect and cumulative impacts to GSL wetlands and associated habitats. The GSL ecosystem consists of an irreplaceable mosaic of wetland and terrestrial habitats that together provide nesting, breeding and feeding areas for migratory birds and other wildlife dependent on aquatic habitat areas. As such, impacts to the terrestrial habitat areas within this system can have a significant, albeit indirect, effect on the wildlife functions provided by the wetland and aquatic habitats of the GSL shorelands ecosystem. The Draft EIS documents the national and international significance of the GSL aquatic ecosystem to migratory birds (p. 14-11). The GSL is designated as a Hemispheric Site of Importance by the Western Hemisphere Shorebird Reserve Network (<http://www.whsrn.org/site-profile/great-salt-lake>); this designation is shared by only seven such sites in the lower 48 states (<http://www.whsrn.org/sites/map-sites/sites-western-hemisphere-shorebird-reserve-network>). The U.S. Fish and Wildlife Service describes the GSL ecosystem as a critically important and irreplaceable resource due to its location, size, and ecological features – in particular, the

open waters, shorelines, and adjacent mix of wetlands and uplands provide a critical migratory bird staging area in an otherwise arid region.¹ The maintenance of the GSL ecosystem, and its component areas and functions, is of **upmost important** to the continued productivity and biodiversity of migratory birds and other wildlife species dependent upon the GSL aquatic ecosystem. The impacts from all action alternatives, in combination with the cumulative impacts of roadway and human development in the project area, have the potential to permanently and significantly impact this important and irreplaceable resource.

The eastern shore of GSL has already experienced significant cumulative impacts, which have reduced wetland and wildlife extent and functions by 58% in the impact analysis area (p. 24-15), limiting the current availability of high quality habitat areas and generally narrowing available shoreline habitats. The WDC project, and the associated growth expected to be induced by the project, will further impact and constrict habitat for aquatic dependent wildlife species along the eastern shore. We therefore recommend the FHWA designate as the Preferred Alternative, an alignment that avoids direct, indirect and further cumulative impacts to GSL wetlands where there are practicable alternatives. Where there are not practicable alternatives to avoid wetlands, we recommend consideration of additional opportunities to minimize adverse impacts through alignment modification and project design features.

The following is a segment-by-segment summary of the project's aquatic resource impacts and the EPA's recommendations for reducing or avoiding environmental impacts. The impacts from this project include direct wetland loss from fill within the highway footprint, loss of wetland extent due to hydrologic changes where the highway intersects natural drainage patterns, reduced or lost wetland function due to changes in water quality or quantity, and reduced aquatic habitat quality and capacity due to the presence of a highway and associated development adjacent to that habitat. The reductions in aquatic habitat functions are especially pronounced where the project alternatives would result in significant impacts to the GSL ecosystem, in particular the GSL Shorelands Preserve and Farmington Bay Wildlife Management Area, which contain critically important shoreland habitats (both terrestrial and aquatic) that maintain the productivity and biodiversity of aquatic dependent wildlife species who use these areas as breeding, feeding and nesting areas.

Southern Segment:

The Draft EIS analyzes two practicable alternative alignments in the project's southern segment: 1) the Glovers Lane alignment; and 2) the Shepard Lane alignment. The Glovers Lane alignment (Alternatives A1, A2, B1 and B2), the most southern connection with I-15, runs adjacent to the GSL ecosystem, agricultural buffer habitats and within 500 ft of the Farmington Bay Wildlife Management Area. The Glovers Lane alignment, would impact 7.8 acres of wetlands within the right of way, including 6 acres of medium and high quality wetlands. Additionally, this alternative would impact nearly 1,108 acres of wildlife buffer habitat within 1,300 ft, including approximately 420 acres of aquatic habitats, 460 acres of medium and 370 acres of high quality habitat areas. The Glovers Lane alignment is located entirely within the GSL 100-year floodplain, and would fragment and constrict this narrowest portion of the high quality GSL habitat corridor in the project area. Impacts to protected areas along Farmington Bay, including the Farmington Bay Wildlife Management Area from the Glovers Lane alignment, are especially significant as impacts to either terrestrial or aquatic habitats within these areas can affect the management, productivity and biodiversity of aquatic dependent wildlife species that utilize these areas as breeding, feeding and nesting areas. In addition to the habitat functions provided by terrestrial areas, these areas serve as upland buffers which protect adjacent wetlands from functional losses associated with roadway and other encroaching development. The Glovers Lane alignment passes through and impact terrestrial buffer areas that have been preserved and protected as mitigation components of previous development projects (e.g., Buffalo Ranch), and/or with the intent of protecting adjacent wetland quality from encroaching development. In comparison, the Shepard Lane alignment (Alternatives A3, A4, B3 and B4) connects with I-15 three miles further north and almost entirely avoids impacts to GSL wetlands and adjacent habitat areas in this portion of the project area. The Shepard Lane alignment would impact 7.3 acres of aquatic resources primarily along the Haight Creek and its riparian wetlands. The aquatic resources impacted by Shepard Lane do not provide the same high quality habitat functions as those wetlands more adjacent to GSL.

¹ Draft EIS Comments for the West Davis Corridor Project. U.S. Department of the Interior, August 14, 2013.

Specifically, according to the Draft EIS, selecting the Shepard Lane alignment in this segment would avoid the following Glovers Lane alignment impacts:

- Loss of 6 acres of medium and high quality GSL wetlands within the Right of Way (ROW),
- 15.2 acres of hydrology/water quality/aquatic habitat impacts to medium and high quality GSL wetlands within 300 ft of the ROW,
- Loss of 39.3 acres of GSL wildlife habitat in the ROW,
- 634.65 acres of impacts to GSL wildlife habitat function/capacity, including areas of the Farmington Bay WMA, and including 265.9 acres of impact to aquatic habitat types within 1300 ft of the ROW, and
- 139.4 acres of impact to the GSL floodplain.

Based on the information in the Draft EIS, the Shepard Lane alignment appears to be less environmentally damaging to the GSL ecosystem, including the wetlands and aquatic-dependent wildlife species, compared to the Glovers Lane alignment. For this reason, the EPA recommends FHWA select the Shepard Lane alignment as the federally Preferred Alternative in order to avoid these significant adverse impacts to the GSL ecosystem. We also recommend the FEIS identify additional minimization and mitigation opportunities for both Shepard and Glovers Lane alignments, including alignment changes and design features to reduce and offset direct and indirect aquatic resource impacts, particularly in areas adjacent to the GSL ecosystem. Our specific mitigation recommendations are outlined below.

Shared Alignment Segment:

All eight alternatives share a 7.5-mile alignment from approximately the Farmington-Kaysville boundary to the Layton-Syracuse boundary near Gentile Street along the edge of the GSL Shorelands Preserve. This segment has substantial impacts to GSL wetlands and aquatic dependent wildlife species, and the alternatives screening process was not able to identify a practicable alternative alignment that could avoid these impacts. The impacts to the GSL Shorelands Preserve are especially significant, as impacts to either terrestrial or aquatic habitats within and adjacent to the Preserve can affect the management, productivity and biodiversity of aquatic dependent wildlife species that utilize these areas as breeding, feeding and nesting areas. In addition to the habitat functions of terrestrial areas, these areas serve as upland buffers which protect adjacent wetlands from functional losses associated with roadway and other encroaching development. In addition, we understand that areas of the Preserve have been acquired as mitigation for the Central Utah Project, and thus were intended to be protected and maintained in their current land use in perpetuity. In this segment, according to the Draft EIS, all alternatives would have the following impacts:

- Loss of 8.8 acres of GSL wetlands, including 3.4 acres and 4.9 acres of medium and high quality wetlands, respectively (7.7 acres of the direct wetlands impacts are within the GSL Shorelands Preserve);
- At least 26.9 acres of wetlands within the GSL Shorelands Preserve would be impacted through loss of hydrology/water quality/aquatic habitat functions within 300 ft. of the ROW (DEIS p. 14-56);
- Loss of 60-61 acres of upland wildlife habitat in the GSL Shorelands Preserve and segmentation and isolation of an additional 45 acres of wildlife habitat from the main Preserve; and
- 1,132.4 acres of impacts to wildlife habitat functions within 1,300 feet of the ROW, including at least 812.4 acres of impacts to the Preserve (DEIS p. 14-56) and 191.6 acres of GSL aquatic habitats.

Given the high value of the resources associated with the GSL Shorelands Preserve and GSL ecosystem affected by the shared alignment, it is important to seek additional opportunities to avoid and minimize impacts to wetlands and aquatic dependent wildlife species through alignment modifications and design features where available. The Draft EIS does not specify how environmental resource impacts would be mitigated, or how much mitigation is proposed. We recommend the Final EIS identify minimization and mitigation measures to reduce and offset the direct and indirect aquatic resource impacts from this segment and from the project overall. Our specific mitigation recommendations are outlined below.

Middle Segment:

The Draft EIS evaluated two practicable alignments in the middle segment of the project. The A Alternatives loop west toward the GSL wetlands, the Preserve and agricultural buffer habitats, while the B Alternatives stay inland following Bluff Road. In this segment, the Draft EIS states that the B alignment would have greater direct wetland

and wildlife impacts than the Alternative A alignment. While the acres of direct and indirect wetland impact are greater in the B alignment, the B alternative would have substantially less adverse impact to the GSL ecosystem, including GSL wildlife habitats, due to its more eastern location. These GSL wildlife habitats serve to maintain the productivity and biodiversity of the greater GSL ecosystem, and impacts to these terrestrial and aquatic resources can affect the function and condition of neighboring GSL wetland habitats and aquatic dependent wildlife species. Furthermore, the resources along the B alignment are fragmented and surrounded by existing development, and do not provide the same high level of GSL ecosystem functions as the resources impacted by the A alignment.

Selecting the B alignment (Bluff Road) as the federally Preferred Alternative would avoid the following impacts associated with the A alternatives:

- 4.4 acres of hydrology/water quality/aquatic habitat impacts to GSL Shorelands Preserve wetlands within 300 ft of the ROW,
- 660 acres of impacts to GSL wildlife habitat function/capacity, including 204.7 acres of GSL Shorelands Preserve habitat, and including 238 acres of impacts to aquatic habitat types within 1,300 feet of the ROW,
- Loss of designated “prime and unique farmlands” and Agricultural Protection areas adjacent to the GSL that serve as habitat and as a terrestrial buffer to GSL aquatic resources.

In this segment, the B alignment avoids significant adverse impacts to the nationally significant GSL ecosystem, including impacts to the GSL Shorelands Preserve and terrestrial habitats utilized by aquatic dependent wildlife species for nesting, breeding and feeding. Consequently, the EPA recommends selecting the B alignment for the middle segment and encourages continuing to seek ways to minimize and mitigate for the substantial direct and indirect aquatic resource impacts along this alignment.

Northern Segment:

The Draft EIS evaluated four practicable alignments in the northern segment. The Draft EIS documents that all alignments in this segment avoid impacts to GSL wildlife resources within 1300 feet of the right of way. The EPA’s review evaluates the two A alignments, and the two B alignments separately.

A Alignments: The Draft EIS discloses that the two northern A alignments (5100 West and 4700 West) have similar environmental impacts. However, both northern A alignments are components of the A alternative that includes impacts to GSL along the middle segment (see above), and the EPA therefore recommends that neither of the A alignments be selected. If alterations are made to the alternatives in the Final EIS that result in the A alignments avoiding or significantly minimizing impacts to GSL resources in the middle segment, the 4700 West alternative would be preferable to 5100 West. 4700 West is the more eastern alternative and would allow better opportunities to avoid GSL wetland impacts if WDC is expanded to the north in the future.

B Alignments: Between the two B alignments (4800 West and 4100 West), our review finds that 4100 West, UDOT’s Locally Preferred alternative, directly intersects and impacts a large wetland complex that could be avoided by selecting the 4800 West alignment. Selecting the 4800W alignment in the north would avoid the following impacts associated with the 4100 W alignment:

- Loss of 4.3 acres of wetlands within the ROW, including 2.8 acres of medium quality wetlands,
- 25.4 acres of impact to medium and high quality wetlands within 300ft of the ROW,
- Loss of 52 acres of wildlife habitat within the ROW, and
- 162.9 acres of impact to high and medium quality wildlife habitats within 1300 ft of the ROW.

The aquatic resource impacts of 4100 West are significant and avoidable through selection of 4800 West, and thus, an alternative with less adverse impacts to the aquatic ecosystem is available. The EPA recommends selecting the 4800 West alignment for the northern segment, while continuing to seek ways to further reduce impacts through alignment or design modifications and mitigate for the substantial aquatic resource impacts along this alignment.

Aquatic Resource Mitigation

EPA believes that developing and including information in the Final EIS on the amount, type and potential locations of mitigation for unavoidable aquatic resource and other environmental impacts will help inform the FHWA's forthcoming selection of its Preferred Alternative. Additionally, EPA recommends considering alignment changes and design features which may further minimize aquatic resource impacts prior to determining the necessary level of mitigation for unavoidable impacts. The Draft EIS defers specific mitigation details until later in the process, and only general examples are mentioned for potential mitigation, such as creating new wetlands from uplands, restoring wetlands in areas that have become uplands, and enhancing and or preserving existing wetlands. We recommend that a more specific commitment to mitigation be included in the Final EIS to address direct and indirect wetland impacts and wetland functions lost or impacted by the FHWA Preferred Alternative. We recommend the mitigation proposal in the Final EIS include a commitment to mitigate for direct wetland losses and for impacts to wetland functions outside of the ROW. We offer the following specific recommendations for mitigation site commitments in the Final EIS to offset any unavoidable project impacts:

- Because hydrologic modifications (ditches, dikes and fills) appear prevalent along much of the eastern GSL shore, there are likely many opportunities within the project area to restore lost wetland acreage and functions.
- Prioritize mitigation sites that are not immediately adjacent to roadways or developed areas, and to wetland mitigation sites that include protected upland buffer areas to protect these areas from future development encroachment.
- Prioritize mitigation sites which provide opportunities to restore and preserve large, undeveloped, unfragmented GSL wetland complexes and aquatic dependent wildlife habitats at risk from future development. The CWA implementing regulations prioritize mitigation sites that are located within the same watershed and represent an in-kind replacement of wetland type and function. In this case, sites should be located within the areas adjacent to GSL in order to preserve and maintain the functions of this critical ecosystem.
- Apply higher mitigation ratios where necessary to account for the method of compensatory mitigation (e.g., creation vs. restoration), the likelihood of success, differences between functions lost at the impact site and the anticipated functional lift.
- Apply higher mitigation ratios for impacts to any areas currently established or protected as mitigation for previous development projects, including conservation easements and areas of the GSL Shoreland Preserve. These ratios should account for the functions lost at these mitigation sites in addition to the functions lost at the original impact site for which these areas provide compensatory mitigation. Temporal losses, in other words the time past between completion of future mitigation and the timing of the original impact, should also be considered in calculating these higher ratios.
- Consider avoidance, minimization and mitigation for impacts to both jurisdictional and non-jurisdictional wetlands in a manner consistent with Executive Order 11990.
- Apply design modification and further minimization actions wherever possible to minimize or shift the ROW for all alternatives through sensitive, higher quality wetland areas and adjacent terrestrial areas that support aquatic dependent wildlife species, including the GSL Shorelands Preserve. In particular, we recommend that UDOT consider relocating the ROW, wherever possible, to preserve an upland buffer between wetlands and roadway development, and to reduce the indirect impacts to these resources.

CWA Section 404

The CWA § 404 implementing regulations at 40 C.F.R. Part 230 require consideration of direct, indirect (secondary) and cumulative impacts by the Corps in making CWA Section 404 permitting decisions for the discharge of dredged or fill material into waters of the U.S.. Given these considerations, and based upon the

information presented in the DEIS, several of the alternatives do not appear to satisfy certain CWA § 404 requirements. Specifically, the Corps can only issue a permit for the discharge of dredged and fill material into waters of the U.S. under CWA Section 404 for the least environmentally damaging practicable alternative (LEDPA) to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. This letter identifies two highway segments with this specific concern because they have significant impacts to GSL ecosystems, including wetlands and aquatic dependent wildlife species, **and** have a practicable alternative in the Draft EIS that would avoid GSL ecosystem impacts for those segments. The two segments with significant GSL impacts and an identified practicable alternative are the southern and middle project segments where the western alignment alternatives are adjacent to GSL. These two segments would have approximately 14 acres of direct impact to GSL wetlands and over 600 acres of impacts to GSL wetland functions outside the ROW. While the eastern alignments may have comparable or greater direct impacts to aquatic resources, the resources affected are more fragmented and impacted by current development, and these eastern alignments almost entirely avoid indirect impacts to GSL ecosystem functions. Six of the Draft EIS alternatives (A1-4, B1, B2) include these two highway segments.

The EPA is equally concerned about the impacts to valuable GSL resources along the shared alignment segment. Although the Draft EIS does not identify a practicable alternative that reduces aquatic resource impacts in this shared alignment segment, the CWA §404 implementing regulations require these aquatic resource impacts be avoided and then minimized to the extent possible. As such we recommend UDOT consider any opportunities to avoid and minimize impacts in these segments that may arise through public comments, including alignments or modifications that further avoid GSL ecosystem impacts, and present this information in the Final EIS.

In order to develop a complete CWA Section 404 permit application, to determine the appropriate level of mitigation, and to understand all avoidable and unavoidable project impacts, it will be important to conduct a full wetland delineation and functional assessment the final preferred alternative prior to seeking a CWA Section 404 permit.

The EPA's Rating and Rationale

As noted above, all alternatives include substantial direct, indirect and cumulative impacts to wetlands and associated ecosystem components, and the project's impacts to GSL ecosystem are both substantial and long-term. The presence of a highway in and along the edge of GSL's ecosystem will permanently degrade their significant ecological functions across hundreds of acres of shoreline habitat thereby reducing the habitat capacity of the GSL ecosystem. Consistent with Section 309 of the CAA, it is the EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. The EPA has rated the environmental impact of all WDC action alternatives in the Draft EIS as "EO" - Environmental Objections. The EO rating indicates that the EPA review has identified significant environmental impacts that should be avoided in order to provide adequate environmental protection. EPA intends to work with the lead agency to reduce these impacts. We have rated the quality of the DEIS as "2" – Insufficient Information. The 2 rating indicates the Draft EIS does not contain sufficient information for the EPA to fully assess project impacts that should be avoided in order to fully protect the environment. We also suggested additional information that may be necessary for forthcoming permit applications. A description of the EPA's rating system is enclosed.

We appreciate the opportunity to participate in the review of this project, and we are committed to working with you in the coming months. If we may provide further explanation of our comments during this stage of your

planning process, please contact me at 303-312-6776, or your staff may contact Melanie Wasco, Lead NEPA Reviewer, at 303-312-6540.

Sincerely,

A handwritten signature in dark ink, appearing to read "Martin Hestmark". The signature is fluid and cursive, with the first name "Martin" written in a larger, more prominent script than the last name "Hestmark".

Martin Hestmark
Assistant Regional Administrator
Office of Ecosystems Protection and Remediation

Enclosures

cc: Carlos Bracerias,UDOT

EPA Region 8 Detailed Comments West Davis Corridor Draft EIS

Baseline for Effects Analysis

When evaluating effects of project alternatives, the Draft EIS does not consistently present results in a way that clearly identifies the baseline against which impacts are measured. Specifically, it is not clear whether project's effects are measured against the No Action alternative or existing conditions. Additionally, the No Action impacts are not included as part of the comparison summaries throughout much of the document (e.g., Table 14-42, Appendix 14C). Consistent inclusion of the No Action alternative within the impacts analyses summaries is important to presenting the magnitude of the environmental effects of the various alternatives.

Recommendation: The EPA recommends providing clarification on the benchmark for comparison wherever the Final EIS describes impacts. Please also include data for the No Action alternative (and existing conditions if applicable) when presenting results of the impacts analyses.

Wetlands and Aquatic Resources

Mitigation

The Draft EIS notes that, "the planning and design process for the WDC avoided and minimized impacts to wetlands and waters of the U.S. by shifting the alignments and constructing retaining walls to the extent possible..." (26-19). It is important to note that the examples provided in this section of the Draft EIS represent minimization activities only. For purposes of permitting the discharge of dredged or fill material under the CWA Section 404 regulations, a permit applicant must sequence actions – first avoiding impacts to the aquatic ecosystem by selecting the least damaging alternative, then minimizing impacts of the alignment through activities like those listed above, and finally mitigating for any unavoidable adverse impacts. The CWA regulations do not allow an applicant to provide additional compensation for an alternative with greater effects to waters of the U.S., as these larger effects would be considered avoidable by selecting a less damaging alternative. Only unavoidable adverse effects are compensated through mitigation.

Recommendation: Please clarify in the Final EIS the CWA implementing regulatory requirement to sequence avoidance, minimization and mitigation activities for a project, and clarify what activities minimize impacts versus mitigate for unavoidable adverse impacts.

Presentation of Environmental Impacts

Under the CWA Section 404(b)(1), secondary (indirect) and cumulative impacts to waters of the U.S. need to be evaluated by the Corps' in making its CWA Section 404 permitting decision for the discharge of dredged or fill material into waters of the U.S.. While the Draft EIS provides a fairly comprehensive analysis of indirect effects to aquatic resources, aquatic wildlife habitats and aquatic dependent wildlife species, we are concerned that the Draft EIS alternatives analysis does not present these natural resource impacts in the same way for all road segments. Specifically, the results of these analyses were not consistently included in the environmental impacts discussion for the locally preferred alternative in Chapter 2. For example, the importance of marsh, playa, riparian and water habitats, was highlighted – noting their rarity and value in the WDC study area. This was a component of the rationale for selecting the Bluff Road (B) alignment as the locally preferred alternative. However, similar effects to these important resources were neither discussed nor considered in the rationale for the northern and southern alignments of the locally preferred alternative. For example, in the southern portion of the project, Glovers Lane would impact 634.6 more acres of GSL wildlife habitat within the 1,300 foot buffer zone, including 265.9 acres of aquatic wildlife habitat and impacts to the Farmington Bay Wildlife Management Area, than Shepard Lane.

Throughout Section 2.4, the characterization of wetland impacts, in particular, the relative impact to wetlands by the Glovers and Shepard Lanes focuses only on the direct impacts within the ROW and does not discuss the substantial secondary impacts. Secondary impacts need to be considered in identifying the least environmentally

damaging practicable alternative (LEDPA) for purposes of CWA § 404 permitting. The secondary impacts of a Glovers Lane alternative far exceed those of Shepard Lane. For example:

- Page 2-78 and 2-83 state that Glovers Lane would have 0.5 acres more wetland impacts. This statement does not take into consideration impacts to wetlands within 300 ft. of the ROW, or aquatic habitats and aquatic dependent wildlife species out to 1300 ft., both of which should be considered in identifying the least environmentally damaging alternative. Once these impacts are considered, the aquatic resource impacts of Glovers are much more significant, with almost 14 acres more impacts to wetlands within the 300 ft. ROW and almost 260 acres more impacts to aquatic wildlife habitats within 1300 ft. of the ROW.
- Page 2-83 states that the riparian wetland types located along Haight Creek are less common in the WDC study area. While the riparian wetland types may be less common in the study area, the wetlands adjacent to Great Salt Lake represent a critically important resource of global significance, and their habitat values are critical for many species of migratory birds and other wildlife species. As such, it may be a greater priority to avoid impacts to the wetlands adjacent to Great Salt Lake.

Recommendation: We recommend that the Final EIS analyze and present all direct and indirect (secondary) impacts to aquatic resources and aquatic wildlife habitats consistently throughout the document for all segments of the project.

Wildlife Buffer Zone Analysis:

The 1,300-foot buffer zone analysis does not fully estimate the potential impacts to aquatic wildlife habitats and aquatic dependent wildlife species. As USFWS has noted in previous cooperating agency letters and notes, roadways of comparable size and capacity to WDC can have impacts to wildlife habitat, including aquatic habitats, which extend at least one kilometer from roadways. Potential impacts beyond 1,300 feet were not discussed or quantified in the document.

The DEIS draws conclusions on the magnitude and extent of wildlife effects largely based upon results from the *Legacy Avian Noise Study*. This study has only limited applicability to the habitat types in the WDC project area, and does not address impacts to non-avian species, rare avian species, or non-noise related roadway impacts.

Recommendations: In order to evaluate the full potential effect of the project on aquatic wildlife habitat functions, we recommend extending the analysis out to 3,280 feet (1 kilometer) from the right-of-way. Please update Table Chapter 14 and 24 to include the acres of wetland habitats and upland wildlife habitats indirectly affected by WDC within a 4th buffer zone that extends from 1,300 feet to 3,280 feet from the right-of-way.

We suggest the Final EIS include in this analysis the wildlife impacts associated with multiple impact factors, including noise, lights, direct mortality, nesting/breeding impacts, and invasive species impacts. We recommend these factors be analyzed using a Habitat Equivalency Analysis framework, which could also be used to determine the appropriate level of mitigation necessary to offset these impacts in important wildlife areas, including many of the affected preserve areas and 4(f) properties.

We recommend FHWA use the best available scientific information, specifically the detailed literature review provided by the USFWS, to draw conclusions on the potential for wildlife impacts. We also recommend that the Final EIS discuss the limitations of the *Legacy Avian Noise Study* and how these limitations may affect conclusions based upon the study.

Wetland Functional Analysis

For this project, UDOT used a streamlined version of its rapid wetlands functional assessment. This method compressed the four categories of wetland quality from UDOT's original rapid assessment tool into three, making UDOT Category IV equivalent to low quality, Categories II and III equivalent to medium quality and Category I equivalent to high quality. While Category I (high quality) wetlands are fairly rare, Category II wetlands are more abundant, but still provide a similar high level of function. The original UDOT rapid wetland assessment method describes Category II wetlands as, "those that provide habitat for sensitive plants or animals, function at very high

levels for wildlife/fish/amphibian habitat or are assigned high ratings for many of the assessed functions and values.” Because Category II wetlands are considered medium quality under the streamline method, they are not treated as high quality resources in the DEIS analysis, and the importance of Category II wetlands is reduced with this approach.

On page 14-6, the Draft EIS states that the resource agencies agreed to use of the streamlined version of the UDOT Functional Assessment Method. Over the last several years, the EPA provided feedback on the streamlined version of the UDOT Functional Assessment Method, but we did not provide concurrence on the use of this method. While the method is sufficient to provide an indication of the wetland quality within the project area for purposes of the Draft EIS, we have consistently expressed uncertainties about its accuracy in several geographic areas of concern and wetland types.

Recommendations:

We recommend the Final EIS include the UDOT Functional Assessment Method definition of the importance of Category II wetlands and specify the impacts to Category II wetlands from each alternative everywhere that Category I impacts are specified.

We continue to recommend that UDOT conduct the full UDOT Rapid Wetlands Functional Assessment for the FHWA preferred alternative and include results in the Final EIS to support the CWA Section 404 permitting process.

Correction needed:

The Draft EIS states that the Corps will conduct a CWA Section 404(b)(1) alternatives analysis and select the LEDPA. This statement incorrectly assigns the role of identifying the LEDPA to the Corps. Pursuant to 40 C.F.R. § 230.10, an applicant must provide sufficient information to show that there are no other less damaging practicable alternatives to the proposed action. The Corps cannot issue a permit for a discharge of dredged or fill material if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. 40 C.F.R. § 230.10(a).

Indirect Effects Analysis

Indirect effects to wetlands and aquatic wildlife habitats are presented in both Chapter 14 and Chapter 23 of the Draft EIS. This can be confusing to the reader.

Recommendation: We recommend that these effects be cross referenced in both chapters so the combined effects can be considered together – cross referencing is only included in Chapter 14, but not Chapter 23.

We are concerned that the indirect effects of WDC due to induced growth are underestimated in the Draft EIS. It is unclear what baseline was used to compare WDC induced growth effects. It is also unclear how the study team was able to differentiate between induced growth effects from WDC and anticipated growth in the project area *without* WDC, especially considering that a variation of WDC is incorporated into cities’ land-use and transportation plans.

Recommendations: We recommend the Final EIS describe the difficulties in accurately predicting induced growth effects. We also recommend the Final EIS provide clarification of the baseline for this analysis, as well as additional discussion on how WDC alternatives are already influencing land-use and transportation plans for the municipalities in the project area.

The Draft EIS notes that because WDC alternatives would bisect the conservation easements associated with the GSL Shorelands Preserve, it may be “more difficult for the City to uphold the easements east of the WDC and potentially allow development between the existing developments and the WDC.” (23-9) A permitting decision would consider wetland areas affected by this bisection and loss of conservation protection as secondary effects under CWA 404, and mitigation would be required to offset these losses.

Recommendation: We recommend that the Final EIS include information regarding the acreage of wetland and wildlife habitat areas potentially affected by the loss of conservation protection on the eastern side of the proposed WDC. We recommend that the Final EIS identify mitigation for impacts to any areas that will potentially lose protective status, in particular wetland and wildlife areas within conservation easements, Migratory Bird Protection Areas and the GSL Shorelands Preserve.

Cumulative Effects

Section 24.4.1 documents the extent of the wetlands and wildlife habitats in the impact analysis area. It is unclear from the Draft EIS how wildlife habitats were estimated. Also, it is unclear how much of the 45,000 acres of wetland and wildlife habitat referenced in this section is actually wetland habitats, as opposed to upland wildlife habitats.

Recommendation: We recommend the Final EIS clarify the methodology for estimating the wildlife habitats in the impact analysis area. We also suggest the Final EIS differentiate between aquatic wildlife habitat acreage and upland wildlife habitat acreage.

In addition to considering impacts of the WDC within the impact analysis area, it is important that the EIS discuss the cumulative impacts to floodplains, wetlands and wildlife habitats along the eastern shore of GSL. Following the development of Legacy Parkway, as well as the expanding development around I-15, these wetlands and habitat bands have narrowed. The WDC project and development in the project area will further constrict habitat in this area. Similarly, long-term transportation plans have WDC extending further to the north into Weber County. The WDC extension would further reduce the habitat areas along the eastern edge of GSL.

Recommendation: We recommend the cumulative impacts to the habitats on the eastern shore of the GSL be discussed and considered in the Final EIS cumulative effects analysis, including past and foreseeable future development of roadways along Great Salt Lake immediately outside the project area. For floodplain impacts, we recommend the Final EIS analyze the potential for the highway design to alter the way flooding occurs and influence development patterns in floodplain areas.

Mitigation for Indirect Effects

The Draft EIS does not identify mitigation measures for the indirect or secondary impacts of the WDC. We understand that FHWA would not necessarily be able to require these mitigation measures pursuant to its authorities, and that mitigation for WDC would largely be implemented through agreements, zoning plans and ordinances, and easements. Nevertheless, a discussion of planned and proposed mitigation measures is important to include in the EIS.

Recommendation: We recommend that the Final EIS include a comprehensive mitigation plan to address the indirect impacts of the WDC. Please identify the roles of local communities and other land managers in implementing mitigation measures.

It appears that the WDC roadway could act as a dam affecting future and existing developments. As the area along the WDC becomes more densely developed, flow rates will increase. This has been demonstrated by the recent flooding problems in Weber County as development has occurred, increasing runoff and peak flow rates, causing streams to become incised.

Recommendation: We recommend analyzing the potential for localized flooding in the Final EIS indirect impact analysis and including design features that would limit or prevent the road from acting as a dam for surface and groundwater flow.

Water Quality

The maximum loading of Total Dissolved Solids (TDS) projected in Table 13-8 appears to underestimate loading to receiving waters. Loading from a 6" storm would result in three total applications of salt as opposed to the two

salt applications referenced in the table, based on the UDOT practice of applying salt at the beginning of a storm with subsequent applications after each 3" of snow. This 150% increase in salt loading would result in 1,164 mg/L of TDS loading. While this increase would not exceed the agricultural use instream standard of 1,200 mg/L, it is important to accurately project TDS loading for agricultural uses given the agrarian nature of the project area.

Recommendation: We recommend revising the TDS loading projections in the Final EIS as discussed above.

In Section 25.3, the State permits section does not include the Municipal Separate Storm Sewer System (MS4) general permit (UTR090000) administered through Utah DEQ. While not a requirement for construction, coordination will need to occur between UDOT and the various municipalities covered under the MS4 general permit so that maintenance requirements under that permit for stormwater facilities (e.g., ponds, swales) can be met. This would include transfer of as-built specifications and maintenance requirements for BMPs to each of the affected municipalities. It is unclear if the Project's stormwater retention ponds are sized to meet a specific storm event (e.g., the 2-year, 24-hour event).

Recommendations: We recommend including a discussion in the Final EIS regarding the MS4 general permit. We also recommend including clarifying information in the Final EIS to demonstrate the detention and retention ponds are sufficient to meet their intended purpose and that they meet municipal design requirements administered through the MS4 permit.

Air Quality Analysis

The Draft EIS concludes that the project will not impact current and future air quality conditions, but lacks documentation to support this conclusion. The project will be located in part of the Salt Lake City-Ogden-Clearfield Combined Statistical Area (CSA) which the EPA designated as nonattainment for the 2006 24-hour $35\mu\text{g}/\text{m}^3$ $\text{PM}_{2.5}$ National Ambient Air Quality Standard (NAAQS) (see 74 FR 58688, 11/13/09). The EPA has evaluated current, certified $\text{PM}_{2.5}$ data for 2010 through 2012, and these data confirm that the Salt Lake City-Ogden-Clearfield CSA area continues to be in nonattainment for the 24-hour $\text{PM}_{2.5}$ NAAQS. We note that the EPA has been working with the Utah Division of Air Quality as they are addressing a number of challenging issues in developing a State Implementation Plan (SIP) revision that will be able to demonstrate that the Salt Lake City-Ogden-Clearfield CSA area can eventually meet the 2006 24-hour $\text{PM}_{2.5}$ NAAQS.

Recommendation: We recommend the Final EIS include documentation to support the no impact finding for the $\text{PM}_{2.5}$ nonattainment area.

Quantitative Analysis for CO, PM_{10} and $\text{PM}_{2.5}$

The WDC project is not in a carbon monoxide nonattainment or maintenance area, and the Draft EIS indicates that the project is not considered a project of air quality concern for purposes of hotspot emissions modeling. We appreciate that the Draft EIS includes both carbon monoxide and $\text{PM}_{2.5}$ / PM_{10} hotspot modeling information. To further inform the public, it would be helpful to include additional documentation and some additional detail on the modeling description with the tables of results.

Recommendations: The EPA recommends that a combination CO hotspot and PM hotspot technical appendix be provided as part of the Final EIS, detailing how the hotspot modeling was performed that resulted in the final concentration figures presented in Table 11-11 on page 11-26, and in Table 11-12 on page 28 of the Draft EIS. We recommend this appendix include, but not be limited to:

- the intersection analysis selection (LOS);
- criteria for siting intersection receptor locations;
- a map depicting the intersection (its geometry) with the receptor locations and the maximum concentration receptor noted (e.g., located on a Google EarthTM photo);
- discussion on how the background CO and PM concentrations were derived (especially with relevance to footnote "b" of table 11-12) from the relevant years of monitoring data;

- expanded discussion on the methodology for developing and selecting meteorology data (min/max temperatures, wind direction data, etc.) (See DEIS page 11-28);
- the date and version of CAL3QHCR that was utilized; and
- full information on how the MOVES modeling was performed to generate the required vehicle emission factors that were used in the hotspot modeling.

For a good example of how a project-level PM quantitative analysis has been documented, we recommend a review of Appendix I (“Air Quality Technical Report”) of the Elgin-O’Hare West Bypass Final EIS in Illinois: <http://www.elginohare-westbypass.org/Tier%20Two%20Final%20EIS/Forms/AllItems.aspx?RootFolder=/Tier%20Two%20Final%20EIS/Tier%20Two%20Final%20EIS%20Appendix%20Material&FolderCTID=0x012000EAB6AF1F11176D4F9CC7E930C18369A7&View={E305E2DE-E8D8-4EAE-90CC-A874643BC92F}>.

Criteria Pollutants Emission Inventory

The emissions inventory for criteria pollutants, along with Table 11-7, notes that emissions were evaluated for the years 2009 and 2040. The EPA is concerned that interim year emissions that were not evaluated may show higher levels than year 2040. For example, the Wasatch Front Regional Council (WFRC) air quality conformity analysis indicates that NO_x and PM_{2.5} precursor emissions are considerably higher in both 2015 and 2020 as compared to 2040.

Recommendation: The EPA recommends that the Final EIS analyze interim year emissions to assure that the timing and significance of impacts are understood through the full analysis period. With respect to information for predicted future year interim emissions, we have provided a weblink to the WFRC’s air quality conformity analysis, “Air Quality Memorandum 28,” at:

http://www.wfrc.org/air_quality/AQ%20memo28_RTP2040_FINAL.pdf

In addition, when reviewing the WFRC’s Air Quality Memorandum 28, please be aware that WFRC updated that document on September 25, 2012, to reflect the revisions to Tables 12a and 12b (that address minor clerical errors).

Mobile Sources Air Toxics (MSAT)

The Draft EIS references the FHWA MSAT guidance document of December, 2012 on page 11-17. Please note that FHWA did not seek concurrence from the EPA’s Office of Transportation and Air Quality (OTAQ) in development of this interim guidance document and the EPA does not endorse FHWA’s 2006, 2009, and 2012 MSAT NEPA guidance documents. This guidance does not discuss epidemiological studies on near road health effects of MSATs, although the December 6, 2012 document reflects the transition from MOBILE6.2 to MOVES as a preferred model for MSAT emissions analyses in NEPA and updates some of its language on recent studies on near-roadway air quality and health. This revised document maintains the focus of earlier FHWA interim guidance documents in avoiding any analyses beyond emissions analysis. The EPA anticipates that the language in this document will continue to be the basis of future NEPA analyses conducted by state departments of transportation.

Recommendation: We recommend that the Final EIS include a discussion regarding these policy differences (as FHWA has done in previous EISs) to reflect that the EPA is not recommending or endorsing the new interim guidance.

Meteorological Data

Footnote “a” of Table 11-12 indicates that background concentrations used for PM hotspot modeling were derived from 2009-2011 ambient monitoring. The Draft EIS is not clear about whether the meteorological conditions associated with these ambient monitored values correlate with the conditions used from 1995 through 1999. This lack of clear correlation for the selection of meteorological data also applies to footnote “c” of this table. A meteorological modeling data set from 1995-1999 is identified as representative of typical conditions along the Wasatch Front; however, the Draft EIS does not include further discussion as to how this conclusion was reached. Also, the Draft EIS does not discuss if the Utah Division of Air Quality concurred with this conclusion for the use

of the 1995-1999 meteorology data set with respect to the background concentrations used in the hotspot modeling. The EPA appreciates the commitment to updated modeling as appropriate in the Final EIS with regard to the background data used in footnote "b" and the ongoing development by the State of the Salt Lake area's 2006 24-hour PM_{2.5} NAAQS SIP element.

Recommendation: We recommend that discussion be included in the air quality modeling technical appendix as part of the Final EIS to provide clarity regarding the selection of meteorological data. We recommend that additional supporting documentation be added to the air quality modeling technical appendix to further detail the State's potential control strategies and implementation schedule that would lead to the lower modeled PM_{2.5} values in 2019.

Road Dust and the PM₁₀ Analysis

The Draft EIS does not indicate whether re-entrained road dust was included for the PM₁₀ project-level quantitative analysis. Consideration of road dust from current and projected Vehicle Miles Traveled (VMT) increases is a required component for a PM₁₀ analysis and could be a significant factor in the modeling input and results.

Recommendation: The EPA recommends that the project-level quantitative analyses for PM₁₀ and PM_{2.5} in the Final EIS and the recommended air quality technical appendix indicate if re-entrained road dust was included in the modeling. Assuming that re-entrained road dust was included in the analysis, as is required for PM₁₀, please include a discussion of how the road dust emissions were calculated along with appropriate references (i.e. AP-42, Chapter 13.2.1).

Air Quality Mitigation

Regarding air quality mitigation for construction emissions, there is a general lack of consideration for air quality monitoring.

Recommendation: The EPA recommends UDOT consider potential monitoring for air quality during construction activities, as appropriate. Factors to consider include the immediate proximity of a highway project to homes, schools, businesses, and other sensitive populations. Although BMPs will be utilized during construction, potential localized impacts from PM_{2.5} and PM₁₀ emissions could occur. We also recommend that a monitoring plan be designed to demonstrate how well the preferred alternative resolves the identified issues and concerns by measuring the effectiveness of the mitigation measures in controlling or minimizing adverse effects.

Cumulative Impacts

In the portion of the cumulative impacts section of the Draft EIS that addresses air quality, there is no chart that displays PM_{2.5} 24-hour values with respect to the 2006 24-hour PM_{2.5} NAAQS. We note that the Salt Lake PM_{2.5} 2006 24-hour NAAQS nonattainment area includes both Davis and Weber counties.

Recommendation: We recommend that the Final EIS include a chart that displays PM_{2.5} 24-hour values with respect to the 2006 24-hour PM_{2.5} NAAQS. Also, 2012 verified ambient air quality data are available from the Utah Division of Air Quality, and we recommend this information be included in the Final EIS.

In the portion of the cumulative impacts section that addresses future trends in air quality, the Draft EIS states: "Regional air quality modeling conducted by the WFRC for the 2040 transportation conformity determination demonstrated that all regionally significant transportation projects would be in compliance with the National Ambient Air Quality Standards." This statement is not entirely correct and mischaracterizes the most recent conformity determination that WFRC performed.

Recommendations: We recommend the Final EIS include referenced relevant information from the latest conformity determination performed by the WFRC (see: http://www.wfrc.org/air_quality/AQ%20memo28_RTP2040_FINAL.pdf) and the WFRC's regional emissions analysis that evaluated future predicted emissions of both PM₁₀ (and its NO_x precursor emissions) and carbon monoxide. These emission analyses compared predicted future emissions (using the EPA's MOVES model and

appropriate emission factors from the EPA's AP-42 document) to the established motor vehicle emissions budgets (MVEB) in the SIP for the applicable nonattainment or maintenance area. Since the State has not finalized the SIP revision attainment demonstration for the Salt Lake 2006 PM_{2.5} 24-hour NAAQS nonattainment area, there are no established MVEBs for PM_{2.5} and NO_x with which the WFRC could demonstrate conformity. Therefore, as per 40 CFR 93.119, the WFRC elected to prepare an emissions analysis that compared predicted future year emissions to 2008 base year emission levels for PM_{2.5} and NO_x.

We also recommend incorporating into the Final EIS the ambient air quality monitoring data for 2012 that have been verified by Utah Division of Air Quality (UDAQ).

With respect to Table 11-12, we note the PM_{2.5} annual NAAQS is 15 µg/m³ and not 12. Also, it is unclear what the values in parentheses represent in this table. Please clarify in the Final EIS if these values relate to the modeling receptor coordinates.